

MINOR SOURCE OPERATING PERMIT OFFICE OF AIR MANAGEMENT

**Modern Hard Chrome of Indiana, Inc.
3550 Canal Street
East Chicago, Indiana 46312**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 089-11566-00385	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary hard chromium electroplating and polishing source.

Authorized Individual:	Dennis Dean
Source Address:	3550 Canal Street, East Chicago, Indiana 46312
Mailing Address:	3550 Canal Street, East Chicago, Indiana 46312
Phone Number:	(219) 398-4273
SIC Code:	3471
County Location:	Lake
County Status:	Severe Nonattainment for NO _x and VOC Primary Nonattainment for SO ₂ Moderate Nonattainment for PM ₁₀ Unclassifiable Attainment for CO
Source Status:	Minor Source Operating Permit Minor Source, under Emission Offset Rules; Minor Source, Section 112 of the Clean Air Act

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) One (1) three thousand (3,000) gallon large hard chromium electroplating tank, identified as Tank #1, constructed prior to December 1993, with a rectifier capacity of fifteen thousand (15,000) amperes and a maximum rectifier capacity of eighty eight million two hundred thousand (88,200,000) ampere-hours per year (A-hr/yr), using a packed bed scrubber/composite mesh pad system as control, and exhausting through stack #1.
- (b) One (1) three thousand five hundred (3,500) gallon large hard chromium electroplating tank, identified as Tank #2, constructed prior to December 1993, with a rectifier capacity of twelve thousand five hundred (12,500) amperes and a maximum rectifier capacity of seventy million five hundred sixty thousand (70,560,000) ampere-hours per year (A-hr/yr), using a packed bed scrubber/composite mesh pad system as control, and exhausting through stack #1.
- (c) One (1) natural gas-fired boiler, identified as Boiler #1, constructed in June 1986, rated at 1.38 million British thermal units per hour (MMBtu), exhausting through stack #2.
- (d) One (1) natural gas-fired make up air unit, identified as Make Up Air #1, constructed in June 1986, rated at 1.15 million British thermal units per hour (MMBtu), and exhausting through the general building ventilation.

- (e) One (1) natural gas-fired make up air unit, identified as Make Up Air #2, constructed in June 1986, rated at 1.10 million British thermal units per hour (MMBtu), and exhausting through the general building ventilation.
- (f) Twenty-four (24) natural gas-fired infra red heaters, constructed in June 1986, rated at 0.100 million British thermal unit per hour (MMBtu), each, exhausting through the general building ventilation.

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

Notwithstanding the Section B condition entitled "Minor Source Operating Permit", all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section.
 - (1) If the Affidavit of Construction verifies that the facilities covered in this Construction Permit were constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (2) If the Affidavit of Construction does not verify that the facilities covered in this Construction Permit were constructed as proposed in the application, then the Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section prior to beginning operation of the facilities.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

- (c) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.
- (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).
- (e) Pursuant to 326 IAC 2-6.1-7, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. If IDEM, OAM, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied. The operation permit issued shall contain as a minimum the conditions in Section C and Section D of this permit.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

C.1 Emission Offset Minor Source Status [326 IAC 2-3]

- (a) The total source potential to emit of all criteria pollutants is less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 2-3 (Emission Offset) will not apply.
- (b) Any change or modification which may increase potential to emit of PM₁₀, SO₂, or CO to one hundred (100) tons per year, from the equipment covered in this permit, shall require an Emission Offset pursuant to 326 IAC 2-3, before such change may occur.
- (c) Any change or modification which may increase potential to emit of VOC or NO_x to twenty-five (25) tons per year, ten (10) tons per year of any single hazardous air pollutant, twenty-five (25) tons per year of any combination of hazardous air pollutants, or one hundred (100) tons per year of any other regulated pollutant from this source, shall cause this source to be considered a major source under Part 70 Permit Program, 326 IAC 2-7, and shall require approval from IDEM, OAM prior to making the change.

C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.

- (c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.
- (c) The Permittee shall notify the OAM within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAM, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.
[326 IAC 2-7-6(6)]

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)]:

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAM, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).

- (c) IDEM, OAM, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.7 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

C.8 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

Testing Requirements

C.9 Performance Testing [326 IAC 3-6] [326 IAC 2-1.1-11]

- (a) Compliance testing on new emissions units shall be conducted within sixty (60) days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

at least sixty (60) days before the intended test date for all chromium electroplating facilities and no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two (2) weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.10 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.11 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.12 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]

- (a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:
- (1) This condition;
 - (2) The Compliance Determination Requirements in Section D of this permit;
 - (3) The Compliance Monitoring Requirements in Section D of this permit;
 - (4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and
 - (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:

- (A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and
 - (B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.
- (b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.
- (c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:
 - (1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;
 - (3) An automatic measurement was taken when the process was not operating; or
 - (4) The process has already returned to operating within "normal" parameters and no response steps are required.
- (d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken.

Record Keeping and Reporting Requirements

C.13 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.14 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.15 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;

- (5) The results of such analyses; and
- (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
 - (1) Copies of all reports required by this permit;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.16 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM on or before the date it is due.
- (d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
 - (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
 - (2) A malfunction as described in 326 IAC 1-6-2; or
 - (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.
 - (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds five percent (5%) of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.
- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.17 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Management stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Data Section, Office of Air Management
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015
- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM on or before the date it is due.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

- (a) One (1) three thousand (3,000) gallon large hard chromium electroplating tank, identified as Tank #1, constructed prior to December 1993, with a rectifier capacity of fifteen thousand (15,000) amperes and a maximum rectifier capacity of eighty eight million two hundred thousand (88,200,000) ampere-hours per year (A-hr/yr), using a packed bed scrubber/composite mesh pad system as control, and exhausting through stack #1.
- (b) One (1) three thousand five hundred (3,500) gallon large hard chromium electroplating tank, identified as Tank #2, constructed prior to December 1993, with a rectifier capacity of twelve thousand five hundred (12,500) amperes and a maximum rectifier capacity of seventy million five hundred sixty thousand (70,560,000) ampere-hours per year (A-hr/yr), using a packed bed scrubber/composite mesh pad system as control, and exhausting through stack #1.

Emission Limitations and Standards [326 IAC 2-6.1-5(1)]

D.1.1 General Provisions Relating to HAPs [326 IAC 20-1-1] [40 CFR Part 63, Subpart A]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR Part 63, Subpart N. The permittee shall comply with the requirements of this condition on and after the compliance date for the tanks.

D.1.2 Chromium Electroplating and Anodizing NESHAP [326 IAC 20-8-1] [40 CFR Part 63, Subpart N]

The provisions of 40 CFR 63, Subpart N - National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks, which are incorporated by reference as 326 IAC 20-8-1, apply to tanks, identified as Tank #1 and Tank #2. A copy of this rule is attached. The permittee shall comply with the requirements of this condition on and after the compliance date for the tanks.

D.1.3 Chromium Emissions Limitation [40 CFR 63.342(c)] [40 CFR 63.343(a)(1)&(2)]

- (a) The emission limitations in this condition apply only during tank operation, and also apply during periods of startup and shutdown as these are routine occurrences for tanks subject to 326 IAC 20-8-1. The emission limitations do not apply during periods of malfunction.
- (b) The hard chromium electroplating tanks, identified as Tank #1 and Tank #2 above, are considered a large, existing hard chromium electroplating operation. During tank operation, the Permittee shall control chromium emissions discharged to the atmosphere from the tanks by not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed 0.015 mg/dscm [6.6×10^{-6} gr/dscf].

D.1.4 Work Practice Standards [40 CFR 63.342(f)]

The following work practice standards apply to tanks, identified as Tank #1 and Tank #2:

- (a) At all times, including periods of startup, shutdown, malfunction and excess emissions, the Permittee shall operate and maintain tanks, identified as Tank #1 and Tank #2, including the packed bed scrubber/composite mesh pad system and monitoring equipment, in a manner consistent with good air pollution control practices, consistent with the Operation and Maintenance Plan (OMP) required by Condition D.1.6.
- (b) Malfunctions and excess emissions shall be corrected as soon as practicable after their occurrence in accordance with the OMP required by Condition D.1.6.
- (c) These operation and maintenance requirements are enforceable independent of emissions limitations or other requirements in this section.
- (d) Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to IDEM, OAM, which may include, but is not limited to, monitoring results; review of the OMP, procedures, and records; and inspection of the source.
- (e) Based on the results of a determination made under paragraph (d) of this condition, IDEM, OAM may require that the Permittee make changes to the OMP required by Condition D.1.6. Revisions may be required if IDEM, OAM finds that the plan:
 - (1) Does not address a malfunction or period of excess emissions that has occurred;
 - (2) Fails to provide for the operation of tanks, identified as Tank #1 and Tank #2, the packed bed scrubber/composite mesh pad system and process monitoring equipment during a malfunction or period of excess emissions in a manner consistent with good air pollution control practices; or
 - (3) Does not provide adequate procedures for correcting malfunctioning process equipment, packed bed scrubber/composite mesh pad system, monitoring equipment or other causes of excess emissions as quickly as practicable.

The work practice standards that address operation and maintenance must be followed during malfunctions and periods of excess emissions.

D.1.5 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan (PMP), in accordance with Section B-Preventive Maintenance Plan, of this permit, is required for the tanks, identified as Tank #1 and Tank #2, and the packed bed scrubber/ composite mesh pad system.

D.1.6 Operation and Maintenance Plan [40 CFR 63.342(f)(3)]

- (a) The Permittee shall prepare an Operation and Maintenance Plan (OMP) to be implemented no later than the startup date of tanks, identified as Tank #1 and Tank #2. The OMP shall specify the operation and maintenance criteria for the tanks, the packed bed scrubber/composite mesh pad system, and monitoring equipment and shall include the following elements:

For the packed-bed scrubber/composite mesh-pad system (PBS/CMP):

- (1) Quarterly visual inspections of the device to ensure there is proper drainage, no chromic acid buildup on the pads, and no evidence of chemical attack on the structural integrity of the device.
 - (2) Quarterly visual inspection of the back portion of the mesh pad closest to the fan to ensure there is no breakthrough of chromic acid mist.
 - (3) Quarterly visual inspection of the duct work from the tank to the control device to ensure there are no leaks.
 - (4) Perform washdown of the composite mesh-pads in accordance with manufacturers recommendations.
 - (5) A standardized checklist to document the operation and maintenance criteria for tanks, identified as Tank #1 and Tank #2, the air pollution control device, the add-on air pollution control device and the monitoring equipment.
 - (6) Procedures to be followed to ensure that equipment or process malfunctions due to poor maintenance or other preventable conditions or periods of excess emissions as indicated by monitoring data do not occur.
 - (7) A systematic procedure for identifying malfunctions and periods of excess emissions of tanks, identified as Tank #1 and Tank #2, the air pollution control device, the add-on air pollution control device and monitoring equipment; and for implementing corrective actions to address such malfunctions and periods of excess emissions.
- (b) The Permittee may use applicable standard operating procedures (SOP) manuals, Occupational Safety and Health Administration (OSHA) plans, or other existing plans such as the PMP required in Condition D.1.5, as the OMP, provided the alternative plans meet the above listed criteria in Condition D.1.6(a).
- (c) If the OMP fails to address or inadequately addresses an event that meets the characteristics of a malfunction or period of excess emissions at the time the plan is initially developed, the Permittee shall revise the OMP within forty-five (45) days after such an event occurs. The revised plan shall include procedures for operating and maintaining tanks, identified as Tank #1 and Tank #2, the air pollution control device, the add-on air pollution control device and the monitoring equipment, during similar malfunction or period of excess emissions events, and a program for corrective action for such events.
- (d) If actions taken by the Permittee during periods of malfunction or period of excess emissions are inconsistent with the procedures specified in the OMP, the Permittee shall record the actions taken for that event and shall report by phone such actions within two (2) working days after commencing actions inconsistent with the plan. This report shall be followed by a letter within seven (7) working days after the end of the event, unless the Permittee makes alternative reporting arrangements, in advance, with IDEM, OAM.
- (e) The Permittee shall keep the written OMP on record after it is developed to be made available, upon request, by IDEM, OAM for the life of tanks, identified as Tank #1 and Tank #2, or until the tank is no longer subject to the provisions of 40 CFR 63.340. In addition, if the OMP is revised, the Permittee shall keep previous versions of the OMPs on record to be made available for inspection, upon request by IDEM, OAM for a period of five (5) years after each revision to the plan.

Compliance Determination Requirements [326 IAC 2-1.1-11]

D.1.7 Performance Testing [326 IAC 2-1.1-11] [40 CFR 63.343(b)(2)] [40 CFR 63.7] [40 CFR 63.344]

- (a) A performance test demonstrating initial compliance for tanks, identified as Tank #1 and Tank #2, was performed on November 22 and 23, 1999.

During the performance test conducted on November 22 and 23, 1999, it was determined that the average pressure drop across the composite mesh pad system was 3.18 inches of water and the average outlet chromium concentration is less than 0.002 mg/dscm.

- (b) The Permittee is not required to further test tanks, identified as Tank #1 and Tank #2, by this permit. However, the IDEM may require testing when necessary to determine if the tanks are in compliance. If testing is required by the IDEM, compliance with the limit specified in Condition D.1.3 shall be determined by a performance test conducted in accordance with 40 CFR 63.344 and Section C - Performance Testing.
- (c) Any change, modification, or reconstruction of the tanks, identified as Tank #1 and Tank #2, the packed bed scrubber/composite mesh pad system device or monitoring equipment may require additional performance testing conducted in accordance with 40 CFR 63.344 and Section C - Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

D.1.8 Monitoring to Demonstrate Continuous Compliance [326 IAC 2-6.1-5(a)(2)] [40 CFR 63.343(c)]

- (a) Pursuant to 40 CFR 63.343(c)(3) and 63.343(c)(1)(ii), when using a packed bed scrubber in conjunction with a composite mesh-pad system to comply with the limit specified in Condition D.1.3, the Permittee shall monitor and record the pressure drop across the composite mesh-pad system during tank operation once each day that the hard chromium electroplating tank is operating. To be in compliance with the standards, the composite mesh-pad system shall be operated within ± 1 inch of water column of the pressure drop value established during the initial performance test, or within the range of compliant values for pressure drop established during multiple performance tests.
- (b) Tank operation or operating time is defined as that time when a part is in the tank and the rectifier is turned on. If the amount of time that no part is in the tank is fifteen (15) minutes or longer, that time is not considered operating time. Likewise, if the amount of time between placing parts in the tank (i.e., when no part is in the tank) is less than fifteen (15) minutes, that time between plating the two parts is considered operating time.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.1.9 Record Keeping Requirements [326 IAC 2-6.1-5(a)(2)] [40 CFR 63.346]

The Permittee shall maintain records to document compliance with Conditions D.1.3, D.1.4 and D.1.6 using the forms provided with this permit. These records shall be maintained in accordance with Section C - General Record Keeping Requirements of this permit and include a minimum of the following:

- (a) Inspection records for the packed bed scrubber/composite mesh pad system and monitoring equipment to document that the inspection and maintenance required by Conditions D.1.6 and D.1.7 have taken place. The record can take the form of a checklist and should identify the following:

- (1) The device inspected;
 - (2) The date of inspection;
 - (3) A brief description of the working condition of the device during the inspection, including any deficiencies found; and
 - (4) Any actions taken to correct deficiencies found during the inspection, including the date(s) such actions were taken.
- (b) Records of all maintenance performed on tanks, identified as Tank #1 and Tank #2, the packed bed scrubber/composite mesh pad system and monitoring equipment.
 - (c) Records of the occurrence, duration, and cause (if known) of each malfunction of tanks, identified as Tank #1 and Tank #2, the packed bed scrubber/composite mesh pad system and monitoring equipment.
 - (d) Records of the occurrence, duration, and cause (if known) of each period of excess emissions of tanks, identified as Tank #1 and Tank #2, the packed bed scrubber/composite mesh pad system and monitoring equipment as indicated by monitoring data collected in accordance with this condition.
 - (e) Records of actions taken during periods of malfunction or excess emissions when such actions are inconsistent with the OMP.
 - (f) Other records, which may take the form of checklists, necessary to demonstrate consistency with the provisions of the OMP.
 - (g) Test reports documenting results of all performance tests.
 - (h) All measurements as may be necessary to determine the conditions of performance tests, including measurements necessary to determine compliance.
 - (i) Records of monitoring data required by 40 CFR 63.343(c) that are used to demonstrate compliance with the standard including the date and time the data are collected.
 - (j) The total process operating time, as defined in Condition D.1.8(b), of each tank, during the reporting period.
 - (k) Records of the actual cumulative rectifier capacity of each hard chromium electroplating tank expended during each month of the reporting period, and the total capacity expended to date for a reporting period.
 - (l) All documentation supporting the notifications and reports required by 40 CFR 63.9 and 63.10 (Subpart A, General Provisions) and by Condition D.1.10.

D.1.10 Reporting Requirements [326 IAC 2-6.1-5(a)(2)] [326 IAC 3-6-4(b)] [40 CFR 63.344(a), 63.345 and 63.347]

The notifications and reports required in this section shall be submitted to IDEM, OAM, using the address specified in Section C - General Reporting Requirements.

(a) Notifications:

(1) Initial Notifications

The Permittee shall notify IDEM, OAM in writing that the source is subject to 40 CFR Part 63, Subpart N. The notification shall be submitted no later than one hundred eighty (180) days after the compliance date and shall contain the information listed in 40 CFR 63.347(c)(1).

(2) A Notification of Compliance Status (NCS) is required each time that the facility becomes subject to the requirements of 40 CFR Part 63 Subpart N.

(A) The NCS shall be submitted to IDEM, OAM, and shall list, for each tank, the information identified in 40 CFR 63.347(e)(2).

(B) The NCS for tanks, identified as Tank #1 and Tank #2, shall be submitted to IDEM, OAM immediately.

(3) Notification of Construction or Reconstruction

Pursuant to 40 CFR 63.345(b)(1), the Permittee may not construct a new tank subject to 40 CFR 63, Subpart N (including non-affected tanks defined in 40 CFR 63.344(e)) without submitting a Notification of Construction or Reconstruction (NCR) to IDEM, OAM. In addition, the Permittee may not change, modify, or reconstruct tanks, identified as Tank #1 and Tank #2, without submitting a Notification of Construction or Reconstruction (NCR) to IDEM, OAM.

(A) The NCR shall contain the information identified in 40 CFR 63.345(b) (2) and (3).

(B) A change, modification, or reconstruction of this facility includes any change in the air pollution control techniques, the addition of add-on control devices, or the construction of duct work for the purpose of controlling both existing tanks and non-affected facilities by a common control technique or device.

(C) A complete application to construct new chromium electroplating or chromium anodizing tanks serves as this notification. Likewise, the complete application to modify or reconstruct tanks, identified as Tank #1 and Tank #2, serves as this notification.

(D) Pursuant to 326 IAC 2-1.1-2(a), permission must be received from IDEM, OAM before construction, modification, or reconstruction may commence.

(b) Performance Test Results

The Permittee shall document results from the initial performance test and any future performance tests in a complete test report that contains the information required in 40 CFR 344(a).

The Permittee shall submit reports of performance test results as part of the Notification of Compliance Status, described in 40 CFR 63.347(e), no later than forty-five (45) days following the completion of the performance test.

(c) Ongoing Compliance Status Report

The Permittee shall prepare summary reports to document the ongoing compliance status of tanks, identified as Tank #1 and Tank #2, using the Ongoing Compliance Status Report form provided with this permit. This report shall contain the information specified in 40 CFR 63.347(g)(3).

Because tanks, identified as Tank #1 and Tank #2, are located at a site that is an area source of hazardous air pollutants (HAPs), the Ongoing Compliance Status Report shall be retained on site and made available to IDEM, OAM upon request.

- (1) The Ongoing Compliance Status Report shall be completed according to the following schedule except as provided in paragraphs (c)(2).
 - (A) The first report shall cover the period from the issuance date of this permit to December 31 of the year in which the permit is issued.
 - (B) Following the first year of reporting, the report shall be completed on a calendar year basis with the reporting period covering from January 1 to December 31.
- (2) If either of the following conditions are met, semiannual reports shall be prepared and submitted to IDEM, OAM:
 - (A) The total duration of excess emissions (as indicated by the monitoring data collected by the Permittee in accordance with 40 CFR 63.343(c)) is one percent (1%) or greater of the total operating time as defined in Condition D.1.8(b) for the reporting period; or
 - (B) The total duration of malfunctions of the add-on air pollution control device and monitoring equipment is five percent (5%) or greater of the total operating time as defined in Condition D.1.8(b).

Once the Permittee reports an exceedance as defined above, Ongoing Compliance Status Reports shall be submitted semiannually until a request to reduce reporting frequency in accordance with 40 CFR 63.347(g)(2) is approved.

- (3) IDEM, OAM may determine on a case-by-case basis that the summary report shall be completed more frequently and submitted, or that the annual report shall be submitted instead of being retained on site, if these measures are necessary to accurately assess the compliance status of the source.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

- (c) One (1) natural gas-fired boiler, identified as Boiler #1, constructed in June 1986, rated at 1.38 million British thermal units per hour (MMBtu), exhausting through stack #2.

Boilers Natural Gas-fired Boilers less than 10.0 MMBtu/hr

Emission Limitations and Standards

D.2.1 Particulate Matter (PM)

Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating, the PM emissions from the 1.38 million British thermal unit (MMBtu) per hour heat input boiler shall be limited to 0.6 pound per million British thermal unit (MMBtu) heat input.

Compliance Determination Requirement [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.2.2 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the particulate matter limit specified in Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?____, 25 TONS/YEAR SULFUR DIOXIDE ?____, 25 TONS/YEAR NITROGEN OXIDES ?____, 25 TONS/YEAR VOC ?____, 25 TONS/YEAR HYDROGEN SULFIDE ?____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?____, 25 TONS/YEAR FLUORIDES ?____, 100 TONS/YEAR CARBON MONOXIDE ?____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.
THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ PHONE NO. : _____
LOCATION: (CITY AND COUNTY) _____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/19____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/19____ _____ AM / PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO₂, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

**Please note - This form should only be used to report malfunctions
applicable to Rule 326 IAC 1-6 and to qualify for
the exemption under 326 IAC 1-6-4.**

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

* **Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	Modern Hard Chrome of Indiana, Inc.
Address:	3550 Canal Street
City:	East Chicago, Indiana 46312
Phone #:	219 - 398 - 4273
MSOP #:	089-11566-00385

I hereby certify that source is **9** still in operation.
 9 no longer in operation.

I hereby certify that source is **9** in compliance with the requirements of MSOP **089-11566-00385**.
 9 not in compliance with the requirements of MSOP **089-11566-00385**.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT
SEMI-ANNUAL COMPLIANCE MONITORING REPORT**

Source Name: Modern Hard Chrome of Indiana, Inc.
Source Address: 3550 Canal Street, East Chicago, Indiana 46312
Mailing Address: 3550 Canal Street, East Chicago, Indiana 46312
MSOP Permit No.: 089-11566-00385

Months: _____ to _____ Year: _____

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted semi-annually based on a calendar year. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/ Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

Compliance Monitoring Requirement (e.g. Permit Condition D.1.3)	Number of Deviations	Date of each Deviation

Form Completed By: _____
Title/Position: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT
CHROMIUM ELECTROPLATING AND ANODIZING NESHAP
ONGOING COMPLIANCE STATUS REPORT**
Complete this form for each affected tank

Source Name: Modern Hard Chrome of Indiana, Inc.
Source Address: 3550 Canal Street, East Chicago, Indiana 46312
Mailing Address: 3550 Canal Street, East Chicago, Indiana 46312
MSOP Permit No.: 089-11566-00385
Type of process: Hard Chromium Electroplating
Monitoring Parameter: Pressure drop across the composite mesh-pad system
Parameter Value: ± 1 inch of water column of the pressure drop value established during the initial performance test
Limits: Total chromium concentration may not exceed 0.015 mg/dscm

This form is to be used to report compliance for the Chromium Electroplating and Anodizing NESHAP only.
The frequency for completing this report may be altered by IDEM, OAM, Compliance Branch.

Companies classified as a major source: submit this report no later than 30 days after the end of the reporting period.
Companies classified as an area source: complete this report no later than 30 days after the end of the reporting period, and retain on site unless otherwise notified.

This form consists of 2 pages

Page 1 of 2

BEGINNING AND ENDING DATES OF THE REPORTING PERIOD:

TOTAL OPERATING TIME OF THE TANK DURING THE REPORTING PERIOD:

MAJOR AND AREA SOURCES: CHECK ONE

- 9** NO DEVIATIONS OF THE MONITORING PARAMETER ASSOCIATED WITH THIS TANK FROM THE COMPLIANT VALUE OR RANGE OF VALUES OCCURRED DURING THIS REPORTING PERIOD.
- 9** THE MONITORING PARAMETER DEVIATED FROM THE COMPLIANT VALUE OR RANGE OF VALUES DURING THIS REPORTING PERIOD (THUS INDICATING THE EMISSION LIMITATION MAY HAVE BEEN EXCEEDED, WHICH COULD RESULT IN MORE FREQUENT REPORTING).

AREA (I.E., NON-MAJOR) SOURCES OF HAP ONLY:

IF DEVIATIONS OCCURRED, LIST THE AMOUNT OF TANK OPERATING TIME EACH MONTH THAT MONITORING RECORDS SHOW THE MONITORING PARAMETER DEVIATED FROM THE COMPLIANT VALUE OR RANGE OF VALUES.

JAN	APR	JUL	OCT
FEB	MAY	AUG	NOV
MAR	JUN	SEP	DEC

HARD CHROME TANKS / MAXIMUM RECTIFIER CAPACITY LIMITED IN ACCORDANCE WITH 40 CFR 63.342(c)(2) ONLY:

LIST THE ACTUAL AMPERE-HOURS CONSUMED (BASED ON AN AMP-HR METER) BY THE INDIVIDUAL TANK.

JAN	APR	JUL	OCT
FEB	MAY	AUG	NOV
MAR	JUN	SEP	DEC

CHROMIUM ELECTROPLATING AND ANODIZING NESHAP ONGOING COMPLIANCE STATUS REPORT

ATTACH A SEPARATE PAGE IF NEEDED

Page 2 of 2

IF THE OPERATION AND MAINTENANCE PLAN REQUIRED BY 40 CFR 63.342 (f)(3) WAS NOT FOLLOWED, PROVIDE AN EXPLANATION OF THE REASONS FOR NOT FOLLOWING THE PLAN AND DESCRIBE THE ACTIONS TAKEN FOR THAT EVENT:

DESCRIBE ANY CHANGES IN TANKS, RECTIFIERS, CONTROL DEVICES, MONITORING, ETC. SINCE THE LAST STATUS REPORT:

ADDITIONAL COMMENTS:

ALL SOURCES: CHECK ONE

- 9 I CERTIFY THAT THE WORK PRACTICE STANDARDS IN 40 CFR 63.342(f) WERE FOLLOWED IN ACCORDANCE WITH THE OPERATION AND MAINTENANCE PLAN ON FILE; AND, THAT THE INFORMATION CONTAINED IN THIS REPORT IS ACCURATE AND TRUE TO THE BEST OF MY KNOWLEDGE.
- 9 THE WORK PRACTICE STANDARDS IN 40 CFR 63.342(f) WERE NOT FOLLOWED IN ACCORDANCE WITH THE OPERATION AND MAINTENANCE PLAN ON FILE, AS EXPLAINED ABOVE AND/OR ON ATTACHED.

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for a Minor Source Operating Permit

Source Name: Modern Hard Chrome of Indiana, Inc.
Source Location: 3550 Canal Street, East Chicago, Indiana 46312
County: Lake
Construction Permit No.: MSOP 089-11566-00385
SIC Code: 3471
Permit Reviewer: Peter E. Fountaine/ CarrieAnn Ortolani

On June 8, 2000, the Office of Air Management (OAM) had a notice published in the Gary Post Tribune, Gary, Indiana, stating that Modern Hard Chrome of Indiana, Inc. had applied for a permit to operate a stationary hard chromium electroplating and polishing source with packed bed scrubber/composite mesh pad systems as control. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Upon further review, the OAM has decided to make the following changes to the construction permit: The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded**):

1. The rectifier capacity of Tank #2 should be 12,500 amperes instead of 12,000 amperes. The facility description in Section A.2 and in the Emissions Unit Description box in Section D.1 has been revised as follows:
 - (b) One (1) three thousand five hundred (3,500) gallon large hard chromium electroplating tank, identified as Tank #2, constructed prior to December 1993, with a rectifier capacity of twelve thousand **five hundred** ~~(12,000)~~ **(12,500)** amperes and a maximum rectifier capacity of seventy million five hundred sixty thousand (70,560,000) ampere-hours per year (A-hr/yr), using a packed bed scrubber/composite mesh pad system as control, and exhausting through stack #1.
2. Since this is not a New Source Construction Permit, the title on the first page of the permit has been revised as follows:

~~NEW SOURCE CONSTRUCTION PERMIT~~ and MINOR SOURCE OPERATING PERMIT OFFICE OF AIR MANAGEMENT

3. The Ongoing Compliance Status Report Form was not included with the permit. The Ongoing Compliance Status Report Form has been attached to the permit and appears as follows:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT
CHROMIUM ELECTROPLATING AND ANODIZING NESHAP
ONGOING COMPLIANCE STATUS REPORT**
Complete this form for each affected tank

Source Name: Modern Hard Chrome of Indiana, Inc.
Source Address: 3550 Canal Street, East Chicago, Indiana 46312
Mailing Address: 3550 Canal Street, East Chicago, Indiana 46312
MSOP Permit No.: 089-11566-00385
Tank ID #:
Type of process: Hard Chromium Electroplating
Monitoring Parameter: Pressure drop across the composite mesh-pad system
Parameter Value: ± 1 inch of water column of the pressure drop value established during the initial performance test
Limits: Total chromium concentration may not exceed 0.015 mg/dscm

This form is to be used to report compliance for the Chromium Electroplating and Anodizing NESHAP only.
The frequency for completing this report may be altered by IDEM, OAM, Compliance Branch.

Companies classified as a major source: submit this report no later than 30 days after the end of the reporting period.
Companies classified as an area source: complete this report no later than 30 days after the end of the reporting period,
and retain on site unless otherwise notified.

This form consists of 2 pages

Page 1 of 2

BEGINNING AND ENDING DATES OF THE REPORTING PERIOD:

TOTAL OPERATING TIME OF THE TANK DURING THE REPORTING PERIOD:

MAJOR AND AREA SOURCES: CHECK ONE

- 9** NO DEVIATIONS OF THE MONITORING PARAMETER ASSOCIATED WITH THIS TANK FROM THE COMPLIANT VALUE OR RANGE OF VALUES OCCURRED DURING THIS REPORTING PERIOD.
- 9** THE MONITORING PARAMETER DEVIATED FROM THE COMPLIANT VALUE OR RANGE OF VALUES DURING THIS REPORTING PERIOD (THUS INDICATING THE EMISSION LIMITATION MAY HAVE BEEN EXCEEDED, WHICH COULD RESULT IN MORE FREQUENT REPORTING).

AREA (I.E., NON-MAJOR) SOURCES OF HAP ONLY:

IF DEVIATIONS OCCURRED, LIST THE AMOUNT OF TANK OPERATING TIME EACH MONTH THAT MONITORING RECORDS SHOW THE MONITORING PARAMETER DEVIATED FROM THE COMPLIANT VALUE OR RANGE OF VALUES.

JAN	APR	JUL	OCT
FEB	MAY	AUG	NOV
MAR	JUN	SEP	DEC

HARD CHROME TANKS / MAXIMUM RECTIFIER CAPACITY LIMITED IN ACCORDANCE WITH 40 CFR 63.342(c)(2) ONLY:

LIST THE ACTUAL AMPERE-HOURS CONSUMED (BASED ON AN AMP-HR METER) BY THE INDIVIDUAL TANK.

JAN	APR	JUL	OCT
FEB	MAY	AUG	NOV
MAR	JUN	SEP	DEC

CHROMIUM ELECTROPLATING AND ANODIZING NESHAP ONGOING COMPLIANCE STATUS REPORT

ATTACH A SEPARATE PAGE IF NEEDED

Page 2 of 2

IF THE OPERATION AND MAINTENANCE PLAN REQUIRED BY 40 CFR 63.342 (f)(3) WAS NOT FOLLOWED, PROVIDE AN EXPLANATION OF THE REASONS FOR NOT FOLLOWING THE PLAN AND DESCRIBE THE ACTIONS TAKEN FOR THAT EVENT:

DESCRIBE ANY CHANGES IN TANKS, RECTIFIERS, CONTROL DEVICES, MONITORING, ETC. SINCE THE LAST STATUS REPORT:

ADDITIONAL COMMENTS:

ALL SOURCES: CHECK ONE

- 9 I CERTIFY THAT THE WORK PRACTICE STANDARDS IN 40 CFR 63.342(f) WERE FOLLOWED IN ACCORDANCE WITH THE OPERATION AND MAINTENANCE PLAN ON FILE; AND, THAT THE INFORMATION CONTAINED IN THIS REPORT IS ACCURATE AND TRUE TO THE BEST OF MY KNOWLEDGE.
- 9 THE WORK PRACTICE STANDARDS IN 40 CFR 63.342(f) WERE NOT FOLLOWED IN ACCORDANCE WITH THE OPERATION AND MAINTENANCE PLAN ON FILE, AS EXPLAINED ABOVE AND/OR ON ATTACHED.

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for a Minor Source Operating Permit

Source Background and Description

Source Name:	Modern Hard Chrome of Indiana, Inc.
Source Location:	3550 Canal Street, East Chicago, Indiana 46312
County:	Lake
SIC Code:	3471
Operation Permit No.:	MSOP 089-11566-00385
Permit Reviewer:	Peter E. Fountaine

The Office of Air Management (OAM) has reviewed an application from Modern Hard Chrome of Indiana, Inc. relating to the operation of a hard chromium electroplating and polishing source.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices and emission units and control devices that did not require permits under 326 IAC 2-1, but require permits under 326 IAC 2-5 and 326 IAC 2-6:

- (a) One (1) three thousand (3,000) gallon large hard chromium electroplating tank, identified as Tank #1, constructed prior to December 1993, with a rectifier capacity of fifteen thousand (15,000) amperes and a maximum rectifier capacity of eighty eight million two hundred thousand (88,200,000) ampere-hours per year (A-hr/yr), using a packed bed scrubber/composite mesh pad system as control, and exhausting through stack #1.
- (b) One (1) three thousand five hundred (3,500) gallon large hard chromium electroplating tank, identified as Tank #2, constructed prior to December 1993, with a rectifier capacity of twelve thousand (12,000) amperes and a maximum rectifier capacity of seventy million five hundred sixty thousand (70,560,000) ampere-hours per year (A-hr/yr), using packed bed scrubber/composite mesh pad system as control, and exhausting through stack #1.
- (c) One (1) natural gas-fired boiler, identified as Boiler #1, constructed in June 1986, rated at 1.38 million British thermal units per hour (MMBtu), exhausting through stack #2.
- (d) One (1) natural gas-fired make up air unit, identified as Make Up Air #1, constructed in June 1986, rated at 1.15 million British thermal units per hour (MMBtu), and exhausting through the general building ventilation.
- (e) One (1) natural gas-fired make up air unit, identified as Make Up Air #2, constructed in June 1986, rated at 1.10 million British thermal units per hour (MMBtu), and exhausting through the general building ventilation.

- (f) Twenty-four (24) natural gas-fired infra red heaters, constructed in June 1986, rated at 0.100 million British thermal unit per hour (MMBtu), each, exhausting through the general building ventilation.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) City of East Chicago, Indiana, Permit Number 1, expired on March 31, 1991,
(b) City of East Chicago, Indiana, Permit Number 2, expired on March 31, 1991; and
(c) City of East Chicago, Indiana, Permit Number 3, expired on March 31, 1991.

There are no approvals on file at IDEM, OAM for this source. No approvals were required prior to December 25, 1998. All conditions from previous City of East Chicago approvals were incorporated into this permit.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
stack #1	Two (2) Large Hard Chromium Electroplating Tanks #1 and #2	12.0	2.35 (rectangle)	2,100	80.0
stack #2	Boiler #1	48.0	1.50	20.0	90.0

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on November 29, 1999, with additional information received on March 6, 2000 and May 23, 2000.

Emission Calculations

Chromium emissions (Single HAP) from the largest chromium electroplating source in Indiana are less than ten (10) tons per year and Modern Hard Chrome of Indiana, Inc. is a much smaller source in comparison. Therefore, no emission calculations were necessary for the chromium electroplating because the chromium emissions from this source will be less than ten (10) tons per year. See page 1 of 1 of Appendix A for detailed emission calculations for the combustion operations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	0.0502
PM ₁₀	0.201
SO ₂	0.0158
VOC	0.145
CO	2.22
NO _x	2.64

HAPs	Potential To Emit (tons/year)
Chromium	< 10.0
Benzene	0.0000555
Dichlorobenzene	0.0000317
Formaldehyde	0.00198
Hexane	0.0475
Toluene	0.0000898
Lead	0.0000132
Cadmium	0.0000291
Manganese	0.0000100
Nickel	0.0000555
TOTAL	< 25.0

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of each pollutant is less than one hundred (100) tons per year and the potentials to emit VOC and NO_x are less than twenty five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

- (c) The existing source is subject to 326 IAC 20-8 but not subject to 326 IAC 2-5.5-1(b)(2), Registration, because the source is not a decorative coating plant. The source is a hard chromium electroplating source and the source emits less than major source levels (see (a) and (b) above). Therefore, the source is subject to the provisions of 326 IAC 2-6.1-3(a).

Actual Emissions

No previous emission data has been received from the source.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the emission units.

Process/facility	Limited Potential to Emit (tons/year)						
	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPS
Chromium Electroplating Tank #1 (3,000 gallons)	0.00	0.00	0.00	0.00	0.00	0.00	< 10.0
Chromium Electroplating Tank #2 (3,500 gallons)	0.00	0.00	0.00	0.00	0.00	0.00	< 10.0
Boiler #1	0.0115	0.0459	0.00363	0.0332	0.508	0.604	0.0114
Make Up Air #1	0.00957	0.0383	0.00302	0.0277	0.423	0.504	0.00951
Make Up Air #2	0.00915	0.0366	0.00289	0.0265	0.405	0.482	0.00909
Twenty-four (24) natural gas-fired infra red heaters	0.0200	0.0799	0.00631	0.0578	0.883	1.05	0.0198
Total Emissions	0.0502	0.201	0.0158	0.145	2.22	2.64	< 25

County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM ₁₀	moderate nonattainment
SO ₂	primary nonattainment
NO _x	severe nonattainment
Ozone	severe nonattainment
CO	unclassifiable attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Lake County has been designated as severe nonattainment for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (b) Lake County has been classified as nonattainment for PM₁₀ and sulfur dioxide (SO₂). Therefore, these emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (c) Lake County has been classified as attainment for lead. Therefore, these emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (d) Pursuant to 40 CFR 81.315, this source, located in Lake County, is within an area designated as unclassifiable attainment for CO.
- (e) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	0.0502
PM ₁₀	0.201
SO ₂	0.0158
VOC	0.145
CO	2.22
NO _x	2.64

This new source is **not** a major stationary source because:

- (a) no nonattainment pollutant is emitted at a rate of one hundred (100) tons per year or greater,
- (b) the potential to emit volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are less than twenty-five (25) tons per year,
- (c) the potential to emit lead is less than five (5) tons per year,
- (d) and it is not in one of the twenty-eight (28) listed source categories.

Therefore, pursuant to 326 IAC 2-2 and 2-3, and 40 CFR 52.21, the PSD and Emission Offset requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) PM₁₀, SO₂, and CO is less than one hundred (100) tons per year,
- (b) VOC and NO_x is less than twenty-five (25) tons per year,
- (c) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and
- (d) any combination of HAPS is less than twenty-five (25) tons per year.

This is the first air approval issued to this source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) Tank #1 and Tank #2 are subject to the National Emission Standards for Hazardous Air Pollutants, 326 IAC 14, (40 CFR 63, Subpart N, and 326 IAC 20-1-1). A copy of this rule is attached. Pursuant to 40 CFR 63, Subpart N, and 326 IAC 20-1-1, the chromium electroplating operations are subject to the following conditions:

- (1) Emission limitation:
The Permittee shall comply with the requirements of this condition on and after the compliance date for the tanks.

The hard chromium electroplating tanks, identified as Tank #1 and Tank #2, are considered a large, existing hard chromium electroplating operation. During tank operation, the Permittee shall control chromium emissions discharged to the atmosphere from the tanks by not allowing the concentration of total chromium in the exhaust gas stream discharged to the atmosphere to exceed fifteen-thousandth milligrams of total chromium per dry standard cubic meter of ventilation air (0.015 mg/dscm) [equivalent to six and six-tenths times ten raised to the power of negative six grains of total chromium per dry standard cubic foot of ventilation air (6.6x10⁻⁶ gr/dscf)].

(2) Monitoring Requirements:

The surface tension of the chromium electroplating bath contained with the tank shall not exceed forty-five (45) dynes per centimeter at any time during the operation of the tank if a chemical fume suppressant containing a wetting agent is used to demonstrate compliance.

Each time that surface tension monitoring exceeds forty-five (45) dynes per centimeter, the frequency of monitoring must revert back to every four (4) hours of tank operation. After forty (40) hours of monitoring tank operation every four (4) hours with no exceedances, surface tension measurement may be conducted once every eight (8) hours of tank operation. Once there have been no exceedances during forty (40) hours of tank operation, surface tension measurement may be conducted once every forty (40) hours of tank operation on an ongoing basis, until an exceedance occurs.

An alternative emission limit of 0.01 milligram per day standard cubic meter (mg/dscm) will be applicable if the chromium electroplating bath does not meet the limit above.

(3) Reporting Requirements:

A summary report shall be prepared to document the ongoing compliance status of the chromium electroplating operation. This report shall be completed annually, retained on site, and made available to IDEM upon request. If there are significant exceedance of chromium air emission limits (as defined in 40 CFR Part 63.347 (h)(2)), then semiannual reports shall be submitted to:

Indiana Department of Environmental Management
Air Compliance Branch, Office of Air Management
Chromium Electroplating
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206

(4) The chromium electroplating operations shall be subject to the record keeping and reporting requirement as indicated in the chromium electroplating NESHAP.

State Rule Applicability - Entire Source

326 IAC 2-3 (Emission Offset Minor Source Status)

Since the total source potential to emit is less than twenty-five (25) tons per year of each criteria pollutant, the requirements of 326 IAC 2-3 (Emission Offset) will not apply.

326 IAC 2-6 (Emission Reporting)

This source is located in Lake County and the potential to emit volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are less than ten (10) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemption Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of twenty percent (20%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

Under no circumstance shall the source emit particulate matter to the extent that some visible portion of the material escapes beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located.

State Rule Applicability - Individual Facilities

326 IAC 6-1 (Nonattainment area particulate limitations)

Since there are no facilities that have the potential to emit one hundred (100) tons or more of particulate matter per year or have actual emissions of ten (10) tons or more of particulate matter per year, the requirements of 326 IAC 6-1 do not apply.

326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating constructed after September 21, 1983)

The one (1) insignificant boiler must comply with the allowable particulate matter emission rate specified by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}} \text{ or } 0.6 \text{ pounds per million British thermal units, whichever is less}$$

Where:

Pt = Pounds of particulate matter emitted per million British thermal unit (lb/MMBtu) heat input.

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used. (1.38 million British thermal unit per hour)

Since the equation above results in 1.0 pound per million British thermal units, the boiler will be limited to allowable PM emission rate of 0.6 pounds per million British thermal units.

The potential particulate matter emissions of the boiler is shown on page 1 of 1 of TSD Appendix A and is as follows:

$$Pt = (((0.0115 \text{ ton of PM per year} * 2000 \text{ pounds per ton}) / (8760 \text{ hours per year})) / (1.38 \text{ MMBtu per hour})) = 0.00190 \text{ pounds of particulate matter per million British thermal unit.}$$

Therefore, the boiler will comply with this rule.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The source is not subject to this rule since the potential sulfur dioxide emissions from each facility are less than twenty-five (25) tons per year.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

- (a) This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.
- (b) See page 1 of 1 of TSD Appendix A for detailed air toxic calculations.
- (c) Chromium emissions (Single HAP) from the largest chromium electroplating source in Indiana are less than ten (10) tons per year and Modern Hard Chrome of Indiana, Inc. is a much smaller source in comparison. Therefore, no emission calculations were necessary for the chromium electroplating because the chromium emissions from this source will be less than ten (10) tons per year. See page 1 of 1 of Appendix A for detailed emission calculations for the combustion operations.

Conclusion

The operation of this hard chromium electroplating and polishing source shall be subject to the conditions of the attached proposed Minor Source Operating Permit MSOP 089-11566-00385.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MMBtu/hr <100

Page 1 of 1 TSD App A

Company Name: Modern Hard Chrome of Indiana, Inc.
Address City IN Zip: 3550 Canal Street, East Chicago, Indiana 46312
MSOP: 089-11566
Plt ID: 089-00385
Reviewer: Peter E. Fountaine
Date: November 29, 1999

	Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
Emission Units		
Boiler #1 = 1.38 MMBtu/hr	1.38	12.1
Make Up Air Unit #1 = 1.15 MMBtu/hr	1.15	10.1
Make Up Air Unit #2 = 1.10 MMBtu/hr	1.10	9.64
Twenty-four (24) Infra-red Heaters = 2.40 MMBtu/hr, total	2.40	21.0
Total Heat Input:	6.03	Total natural gas usage: 52.8

Criteria Pollutants						
Emission Factor in lb/MMCF	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Boiler #1	0.0115	0.0459	0.00363	0.604	0.0332	0.508
Make Up Air Unit #1	0.00957	0.0383	0.00302	0.504	0.0277	0.423
Make Up Air Unit #2	0.00915	0.0366	0.00289	0.482	0.0265	0.405
Twenty-four (24) Infra-red Heaters	0.0200	0.0799	0.00631	1.05	0.0578	0.883
Total potential emissions (tons/yr):	0.0502	0.201	0.0158	2.64	0.145	2.22

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	0.00210	0.00120	0.0750	1.80	0.00340
Boiler #1	0.0000127	0.00000725	0.000453	0.0109	0.0000206
Make Up Air Unit #1	0.0000106	0.00000604	0.000378	0.00907	0.0000171
Make Up Air Unit #2	0.0000101	0.00000578	0.000361	0.00867	0.0000164
Twenty-four (24) Infra-red Heaters	0.0000221	0.0000126	0.000788	0.0189	0.0000357
Total potential emissions (tons/yr):	0.0000555	0.0000317	0.00198	0.0475	0.0000898

HAPs - Metals						
Emission Factor in lb/MMcf	Lead	Cadmium	Chromium	Manganese	Nickel	Total Combined HAPs (tons/year)
	0.000500	0.00110	0.00140	0.000380	0.00210	
Boiler #1	0.00000302	0.00000665	0.00000846	0.00000230	0.0000127	0.0114
Make Up Air Unit #1	0.00000252	0.00000554	0.00000705	0.00000191	0.0000106	0.00951
Make Up Air Unit #2	0.00000241	0.00000530	0.00000675	0.00000183	0.0000101	0.00909
Twenty-four (24) Infra-red Heaters	0.00000526	0.0000116	0.0000147	0.00000399	0.0000221	0.0198
Total potential emissions (tons/yr):	0.0000132	0.0000291	0.0000370	0.0000100	0.0000555	0.0498

Methodology:

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included)

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.